

### REMARKS

The pending independent claims are claims 2, 7, 19, 24, 33, and 39. All of these claims are rejected as obvious from *Nagata* (JP 53-89753) under 35 U.S.C. § 103(a). The dye additive of *Nagata* is essential to that invention, and in fact *Nagata's* dye additive provides the motivation for that entire invention which is based upon the "guest-host" effect. In contrast, the present invention has no "guest" or dye molecules.

The figures of *Nagata* show host liquid crystal molecules 6 plus guest dye molecules 7. In contrast, the present invention shows only liquid crystal molecules. The entire invention of *Nagata* is designed to take advantage of the guest-host effect, unlike the present invention, and Applicant respectfully submits that it would not have been obvious for a skilled person to use an arrangement of *Nagata's* without guest dye molecules.

In order to emphasize this feature of the present invention, the following limitation is inserted into the independent claims: "wherein any additive used with the liquid crystal molecules is a non-dye additive." This amendment introduces no new matter, and is supported at least by page 17 of the application, and by the figures. Also see present dependent claims 9, 14, 30, 34, and 40. Each of those claims states that the "liquid crystal layer is formed of a material." It does not say that the liquid crystal layer is formed of two materials, as in *Nagata*.

Applicant respectfully reiterates that the liquid crystal layer of the present claimed invention is entirely different from that of *Nagata*. It is easy to see from *Nagata's* figures 1a and 1b that the layer comprises two different types of molecules, whereas the present figures 1A and 1B show only one type of molecule.

The purpose of *Nagata's* invention is to display color letters, numbers, and patterns on a transparent background. For this purpose, *Nagata* discloses an additive of dichromatic dye that must be mixed with the liquid crystal. The liquid crystal is a "host" and the dichromatic

dye is a “guest.” This guest-host effect is central to *Nagata*’s inventive concept, whereas it is irrelevant to the present claimed invention.

The primary purpose of the present invention is to minimize the color shift phenomenon in white state. The present application says nothing about a “guest-host effect.” The only additive mentioned by the present application is for expediting return to original alignment, as discussed at page 17 of the application as originally filed, lines 29-32. The present application cites cholesteric chiral as an exemplary additive, and cholesteric chiral is not a dye, and is not useful for producing a guest-host effect.

Applicant respectfully submits that the “liquid crystal layer” of the present independent claims is defined very differently from the “liquid crystal layer” of *Nagata*. Of course, according to MPEP § 2173.01, applicants are their own lexicographers. In the present situation, *Nagata* has adopted a very different meaning for the term “liquid crystal layer” than the meaning that is used in the present application. According to the present application, the “liquid crystal layer” consists of liquid crystal molecules **24**, as shown in FIG 1. In contrast, *Nagata* shows in his Figure 1a that the “liquid crystal layer” is a guest-host mixture of liquid crystal molecules **2** combined with dye molecules **3**.

Applicant also wishes to point out that the pixel electrode and counter electrode (or common electrode) of the present invention are arranged on the lower substrate. In contrast, the cited *Nagata* reference does not show or hint at such a structure. The counter electrodes of the cited reference are arranged on the upper substrate. Accordingly, the direction of the electric field formed between pixel electrode and counter electrode of the present invention is the direction of a horizontal electric field, while that of the electric field formed between pixel electrode and counter electrode of the cited reference is the direction of a vertical electric field.

### Conclusion

Applicant submits that the claims of the present application define patentable subject matter and are patentably distinguishable over the cited reference for the reasons explained.



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Applicant would greatly appreciate if the Examiner would please contact Applicant's attorney by telephone, if anything can be done to clarify the claims or alleviate the Examiner's concerns. Allowance of the pending claims is earnestly solicited, and early passage to issue is sincerely requested.

Respectfully submitted,

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